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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/848,263	05/04/2001	Naoki Furuhata	PF-2801/NEC/US/mh/B1(ELD)	6317

466 7590 05/02/2003

YOUNG & THOMPSON
745 SOUTH 23RD STREET 2ND FLOOR
ARLINGTON, VA 22202

EXAMINER

COLEMAN, WILLIAM D

ART UNIT PAPER NUMBER

2823

DATE MAILED: 05/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/848,263

Applicant(s)

FURUHATA, NAOKI

Examiner

W. David Coleman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18, 42, 45, 47 and 53 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 42, 45 and 47 is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 53 is/are rejected.
- 7) ☒ Claim(s) 3-18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Asano, Japanese Patent Abstracts 10-107042.

pertaining to claim 1, Asano discloses a semiconductor device as claimed. See Drawing 1, where Asano discloses a monolithically integrated semiconductor device comprising:

a hetero-junction bipolar transistor having at least one electrode contact layer 20 which contacts directly with at least one of collector, base and emitter electrodes 22; and

at least one passive device 31 having at least one passive device electrode 24 having two resistive elemental electrode contacts and at least one resistive element layer 20, contacting said two resistive element electrode contacts,

wherein said electrode contact layer and said restive element layer comprise the same compound semiconductor layer (i.e., GaInP, gallium indium phosphide which is a compound semiconductor layer).

3. Pertaining to claim 2, Asano teaches the device as claimed in claim 1, wherein said passive device electrode and one of said collector, base and emitter electrodes comprises the same metal layer (i.e., AuGe/Ni/Au).

Claim Rejections - 35 USC § 103

4. Claim 53 is rejected under 35 U.S.C. 103(a) as being unpatentable over Asano, Japanese Patent Abstracts 10-107042 in view of Prasad et al., U.S. Patent 5,268,315.

5. Asano discloses a semiconductor device substantially as claimed. Asano teaches a monolithic integrated semiconductor device comprising:

a hetero-junction bipolar transistor having at least one electrode contact layer that directly contacts with at least one of collector, base and emitter electrodes;

at least one passive device having at least one passive device electrode and at least one resistive layer and said electrode contact layer and said resistive layer are the same material.

However, Asano fails to teach a plurality of first level interconnects directly contacting each of said collector, base, emitter and device electrodes; and

a plurality of coplanar second level interconnects, perpendicular to and directly contacting said plural first level interconnects. Prasad teaches a plurality of first level interconnects directly contacting each of said collector, base, emitter and device electrodes; and

a plurality of coplanar second level interconnects, perpendicular to and directly contacting said plural first level interconnects. See **FIG. 15** (elements **86, 100** and **102**) where Prasad teaches the claimed limitation. In view of Prasad, it would have been obvious to one of ordinary skill in the art to incorporate the limitations of Prasad into the Asano device because it provides an air-bridge metal (column 7, lines 14-20).

Objections

6. Claims 3-18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Allowable Subject Matter

7. Claims 42, 45 and 47 allowed.

8. The following is an examiner's statement of reasons for allowance: reasons for allowance are recited in Applicants arguments filed September 12, 2002 in paper no. 7.

9. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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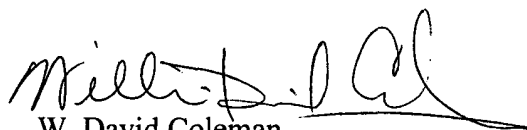
however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to W. David Coleman whose telephone number is 703-305-0004.

The examiner can normally be reached on 9:00 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on 703-306-2794. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7721 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

A handwritten signature in black ink, appearing to read 'W. David Coleman', with a horizontal line extending from the end of the signature.

W. David Coleman
Primary Examiner
Art Unit 2823

WDC
April 30, 2003